The absorption and distribution of the solution are promoted by massage of the part.

This method is less dangerous than transfusion, and is comparatively painless.—*Therapeutische Monatshefte*, October, 1889.

MEDICINE.

UNDER THE CHARGE OF
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EPIDEMIC INFLUENZA.

NOTHNAGEL (*Wiener med. Presse*, 1890, No. 1, 25) is of the opinion that influenza is a bacterial disease; for although the actual proof of this—the finding of the specific organism—has not yet been offered, yet its clinical course and its epidemic character mark it as a typical infectious disease, such as is caused by the entrance of a microörganism into the system. It is undoubtedly not the microbe, but the toxin produced by it, which produces the symptoms.

The clinical characters of influenza may be at times so different that the belief could be entertained that we had to do with different diseases. In typhoid fever there may be a cerebral typhoid, a pneumo-typhoid, a nephro-typhoid, and the typhoid with abdominal symptoms. It is always the same poison, which probably attacks the organ possessing the least power of resistance. The same is true of influenza, and it is the author's opinion that the influenza poison may act upon different organs, and occasion different symptoms in different cases.

In nearly all cases this poison produces fever, which varies as regards its duration and character. There are isolated and rare instances in which influenza was unaccompanied by fever. Next to the fever the most important symptoms are affections of the respiratory apparatus. After these are disorders of the nervous system (headache, sleeplessness, neuralgia, muscular pains). The author has observed some cases which afford convincing proof of the analogy of influenza to other infectious diseases. After such affections, namely, there are often evidences of motor and sensory irritation or paralysis; and he has seen cases of influenza in which, after the disease had passed, neuralgias, especially trigeminal, remained. A third department of the economy, the digestive tract, is attacked by influenza with relative frequency (loss of appetite, vomiting, diarrhœa).

In many cases, still other symptoms make their appearance; such as asthmatic attacks, due to direct action of the influenza toxin on the phrenic or vagus or on the nerves of the lung themselves.

In the vast majority of cases influenza is not a dangerous disease. A danger lies in the liability of a capillary bronchitis or a catarrhal pneumonia to develop and to produce death, especially in children and in old and debilitated persons.

The fear has been entertained that croupous pneumonia might develop from influenza. Nothnagel takes the ground that croupous pneumonia is a disease *sui generis*, which has nothing to do with the influenza as such. Pneumonia, as is well known, not rarely develops in persons suffering from an ordinary catarrh of the respiratory passages, and may, of course, do so in the case of the catarrh of influenza; and it is only in this sense that the frequency of pneumonia is increased by the existence of influenza, in that it prepares a suitable nidus for the developmeht of the pneumonia cocci.

Whether influenza is directly contagious is not yet decided, but the author considers it probable, though the great majority of cases contract the disease by infection through the inspiring of the germs in the air.

The treatment must be directed solely against the symptoms, as we possess no specific against the influenza poison. The reduction of fever in every case is not only unnecessary but injurious. The severe pains are to be relieved by antipyrin, acetanilid, and phenacetin. The convalescent should not be permitted to go out too soon, as full recovery is delayed in this way. Nothing can be done in the nature of prophylaxis.

POTAIN (*L'Union Médicale*, December 21, 1889, 878) quotes the generally accepted definition of the grippe as being a febrile, epidemic malady, characterized by a catarrh of the respiratory passages and often of the digestive tract as well, and presenting general phenomena and nervous troubles out of proportion to the real gravity of the affection. This definition, however, is insufficient, because it leaves out of consideration a certain number of cases, and does not completely exclude others which have no connection with the disease. Yet it is very difficult to formulate a definition for a disease which has neither anatomical lesions nor symptoms always characteristic. We have, therefore, to consider the diverse individual variations which the affection presents.

There is a short prodromal period, sometimes absent, characterized by an initial chill or repeated sensations of chilliness, pains in the back, head, and joints, and especially a marked prostration, both moral and physical. There is often sufficient restlessness and anxiety to raise the fear of the approach of some severe disease. This prodromal stage may last from twelve hours to two days.

With the development of the catarrhal symptoms there appear coryza, pharyngitis, laryngitis with hoarseness and even aphonia, cough, and sometimes decided dyspnœa. The physical signs over the chest are absent or insignificant. The digestive disturbances consist in loss of appetite, coated tongue, and sometimes pain in, and slight distention of, the abdomen. Constipation occurs at first, but later diarrhœa with colicky pain may appear. The urine may contain albumin even in light cases. Vertigo, ringing in the ears, and great depression may be seen. The febrile movement is usually characteristic; the temperature rising suddenly to 104° F. In other cases it may go up more gradually though with greater variations than in a continued fever. In still other cases the fever may be of a distinctly remittent type. An eruption is occasionally witnessed; erythematous or scarlatinal in character, or herpetic or urticarial. The predominance of certain symptoms in any case determines the particular variety of the disease, such as the cephalic, abdominal, thoracic, etc.

LIEBREICH (*Therap. Monatshefte*, January, 1890, 55), in discussing the present epidemic as observed throughout Europe, says that we will perhaps later be able to determine with positiveness whether it is identical in nature with what is usually known as grippe and with the influenza epidemics which have formerly been described. At any rate its violence is a most prominent characteristic. He believes that the direction of the wind, or atmospheric influences, are not the only causes of its spreading, but that it is undoubtedly communicated from person to person. The rapidity with which it develops in schools, manufactories, and the like, is a proof of this. As with many other infectious diseases, the cause is unknown, and the therapy must therefore be entirely symptomatic. Following the course of the symptoms, we see that the affection is quite different from what is usually denominated "influenza." The first symptom, though not in all cases, is chilliness—rarely a rigor—and with this the evidences of catarrhal affection of the nasal, pharyngeal, and bronchial mucous membrane, but of very variable intensity. In all marked cases pain in the hips, thighs, head, and back, especially in the region of the sacrum, is characteristic. Irritation of the conjunctiva, seen in most cases of general catarrh, is here of inconsiderable and of short duration. Intestinal irritation is rare. The fever is slight and generally disappears on the second or third day, and the pulse is not much accelerated, but the exhaustion which follows is very characteristic, being persistent and out of all proportion to the degree of fever. The skin is generally moist, in contrast to its condition in pneumonia. The urine is light colored, and often contains abundant urates. The affection seldom terminates fatally, danger arising only in those cases in which there is previous disease or weakness of certain organs, particularly the heart and lungs.

These symptoms indicate the line of treatment to be carried out. In the beginning, in case there is no perspiration, baths, warm drinks, or, perhaps, Dover's powder should be given. If, on the other hand, there are exhausting perspirations, the whole body may be rubbed with spirits of camphor. The characteristic and very severe pains are modified by antipyrin in very different degrees. Sometimes 15 or 30 grains will entirely and permanently remove them. The diet varies according to the case. In this, as in other affections of the bronchial mucous membrane, "apple-water" is a very useful remedy. This is prepared either by soaking slices of apple for a considerable time in hot water, and then pouring this off, or, still better, by thoroughly boiling apples in a large amount of water until they are disintegrated, straining the water through a cloth, and sweetening. This should be drunk warm. Large quantities may be taken without disturbing the stomach.

At a recent meeting of the Berlin "Verein für innere Medicin," RENVERS (*Berl. klin. Woch.*, 1890, No. 1, 16) read a paper on the same subject. He said that the recent epidemic is the seventh occurring in this century. The disease was first described in the twelfth century. Its spread is independent of climate, the direction of the wind, etc. It may occur in the tropics or in the far north. The disease is ushered in either by severe nervous or by gastric or respiratory symptoms. It attacks individuals of all classes, but its mortality is slight. The cases which first exhibit nervous symptoms run the most rapid course; next in speed are those with catarrhal symptoms, while the longest to recover are patients in whom there are disturbances of the digestive system. Fatal cases are attributable to complications, especially catarrhal and croupous pneumonia, and affections of the throat and ear. In the epidemic of 1833 many cases died of pneumonia. Phthisical patients or others with debilitated constitutions, if attacked by grippe, usually die of their primary disease.

Influenza is an infectious disease of unknown nature, which appears to start from some centre—often Russia—and to spread over whole countries, frequently crossing the ocean. It begins acutely with headache and burning skin, followed in a few hours by nausea, restlessness, injection of the eyes, and fever of 104° and over. These symptoms increase in severity; in ten to twelve hours there is perspiration, and in twenty-four hours the temperature falls by crisis and the process is over. The depression and the pains in the limbs and back constitute the chief complaint, and continue until full recovery has taken place.

A second form of the affection exhibits a slowly rising temperature during two days, accompanied by depression, pain in the joints, severe cough, dryness in the throat, and vomiting caused by the cough. The temperature remains high two days longer and then falls gradually. The catarrh disappears after several days; full recovery ensuing after about ten days.

In the third form there is disturbance of the digestive apparatus as well as of the respiratory; vomiting occurs, which greatly relieves the patient, and fever develops. The disease gives the impression of a commencing typhoid.

Catarrhal and croupous pneumonia were observed as complications in the Charité Hospital (Berlin), and instances were noticed in which the inflammation of the throat extended to the ear.

The prognosis is favorable. Treatment consists in the reduction of the high fever by antipyrin, by which means the headache and other symptoms will be removed.

In discussing the subject FÜRBRINGER took the ground that the disease was not contagious. He recognized the three varieties of the affection. He believes further that it is often accompanied by an abortive broncho-pneumonia, as shown by the presence of blood in the sputum. He does not believe in the efficacy of the antipyretics in the treatment of the affection, and recommends rather that morphine be given to allay pain if severe.

LOWENSTEIN accepted the possibility of its transmission from person to person, and had observed relapses in patients who had exposed themselves to the weather too soon.

LEYDEN (*Munch. med. Wochenschr.*, 1890, No. 2, 30) speaks of the widespread distribution of the present epidemic of influenza. Not much less than fifty per cent. of the population, including all ages and classes, are attacked by it. He accepts the three forms described by Renvers, and enumerates the symptoms. Common to all is the sudden development of the disease, with fever and chill or chilliness. The fever is often ushered in by vomiting and other gastric symptoms, or by redness and swelling of the conjunctivæ. It reaches 102° to 104° F., lasts two or three days, and disappears either by crisis or lysis. Characteristic of the affection are the great prostration and the very tedious recovery. A tendency to hemorrhages from various parts of the body is a frequent complication. Herpes, urticaria, ecthyma, and erythema have been described. The persistence of the anorexia is a noteworthy feature. In addition to the ordinary symptoms of the nervous form, he has observed supra-orbital neuralgia and sciatica. Cerebral symptoms may also appear, as coma and stiffness of the neck; but it is doubtful whether otitis and meningitis can be attributed to influenza. The disease can complicate or be complicated by other disorders. The mildest combination is that with bronchial catarrh or bronchial asthma, from which, however, some old people have died. His phthisical patients have usually recovered from the influenza, even when quite sick. In the last half of the epidemic in Berlin, pneumonia was a frequent complication, as was also the case in St. Petersburg. In a large number of cases the pneumonia seemed to be irregular, in that it was rather a congestion than a true hepatization. In many cases, otherwise typical, there was at no time decided dulness on percussion. The expectoration, too, was often not rust-colored or bloody. The author believes this to be a catarrhal pneumonia peculiar to influenza. Cases of genuine croupous pneumonia also occur. He considers the disease miasmatic rather than contagious.

The pandemic in Berlin was for the most part benign, the cases of death being due almost always to complications.

Influenza and dengue have many points of similarity, namely, that both are pandemic, spread with great velocity, are ushered in by high fever, are attended by a tedious convalescence, run in general a favorable course, and seldom terminate fatally. Two important differences are, first, the localization of the pain, which in dengue is almost always in the knee-joint, and produces the characteristic limping gait; second, in the condition of the skin, which in dengue exhibits a scarlatinal exanthema. The fact that dengue likewise came from the east, and arose in countries bordering on Russia, makes it difficult to deny a certain relationship between the affections.

The discussion at the Medical Society of St. Petersburg (*Wien. med. Presse*, No. 52, 1889) on the subject of influenza is of particular interest, since this was the first large European city in which the epidemic appeared. MORITZ stated that the disease began there during the last days of October, and had attacked about one-third of the entire population. He recognizes the three forms of the disease to which we have already alluded, *i. e.*, 1, the nervous form, with symptoms of affection of the central nervous system; 2, the catarrhal form, in which the affection of the respiratory organs predominates; 3, the gastric form, with violent vomiting, diarrhœa, coated tongue, and loss of appetite. Most of the cases of all these forms recovered completely in two to three days, and many abortive cases were seen in which there were but indications of a few of the symptoms. After the first attack, and after complete apyrexia, there not infrequently developed a second stage with violent catarrhal symptoms and more or less high fever. This new outbreak of the disease is rather to be considered an exacerbation than a relapse. It is apt to appear on the fifth to the seventh day of the disease, and is oftenest seen in those patients who have not sufficiently protected themselves during recovery.

LIEVEN expressed the doubt whether this epidemic is identical with influenza or grippe. Influenza develops during bad weather accompanied by a northeast wind. At the time of the appearance of this epidemic, however, the weather was warm and moist, which might idicate that the cause depended on the decomposition of vegetable matter, as in malaria. Many cases, especially in the better class who are not so much exposed to the weather, exhibited no catarrhal symptoms whatever. This fact, too, would sustain the belief that the disease was something new, and not to be identified with grippe.

KERNIG believed that the epidemic was influenza, but claimed that this word had often been wrongly applied to all severe catarrhal affections. If the word be used in its wider and proper sense, it is fully applicable to the affection under consideration, in which there may be distinct varieties without evidence ot catarrhal symptoms. He had been able to recognize temporary enlargement of the spleen in all the cases he had seen. In a number of instances he had observed severe catarrh of the respiratory tract follow a very short attack of the disease. Not infrequently the influenza had been complicated by catarrhal pneumonia, and less often by croupous pneumonia. He witnessed one case of the nervous form which exhibited all the symptoms of meningeal irritation. He regarded the disorder as purely miasmatic, and not contagious.

Several other speakers took part in the discussion, mentioning such circumstances as the occasional occurrence of various exanthemata and of œdema.

THE FEBRILE REACTION IN INFLUENZA.

FRÄNTZEL (*Centralblatt f. klin. Med.*, 1890, No. 2, 25) has made careful observations on the course of the temperature in 50 uncomplicated cases of influenza; no antipyretic being meanwhile administered. Only the severest cases came under observation, as only these were admitted to the hospital where the studies were made.

In one case the temperature reached 105.8°, and in 11 the curve exceeded 104°; very few of the cases failed to reach 102.2°. The duration of the febrile period varies much. In general the average is perhaps three or four days. Rarely it exceeds five days, and in only 2 cases did it last longer than a week. There are two forms of onset of the febrile reaction. In the one the rise ot temperature is rapid and continuous, reaching the maximum generally before twenty-four hours is past. In the second form the temperature takes three or four times as long to reach the maximum, and exhibits remissions, generally in the morning.

As an intermediate form may be described that in which the temperature rises rapidly—perhaps 4.5° in four hours—to be then followed by a slight remission, and this again by a second rapid rise to the maximum.

The acme usually continues for a short time, and the temperature then falls according to two different methods. In the first it exhibits a remittent type, each evening's exacerbation during several days being slightly less than that of the preceding evening. The second type is that exhibiting a rapid continuous critical fall to normal or below it. The degree of reduction of temperature may equal 5.2° or 7° within twelve or twenty-hours.

The majority of the author's cases exhibited the first type of reduction of temperature. A few intermediate or mixed forms came under his observation. Among these were cases in which, after an afebrile interval of four or six days there occurred a rise of temperature lasting twelve hours, and reaching 104.4° or more. One genuine case of relapse was noted.

INFLUENZA OR DENGUE.

After discussing the question of the identity of influenza with dengue, PROUST (*L'Union Médicale*, 1889, December 19, 872) sums up his remarks by saying that the epidemic of influenza prevailing at Paris does not present all the classic and ordinary characters of the grippe as they are usually observed; but that it does not, on the other hand, exhibit the *ensemble* of symptoms of dengue as described by physicians who see it in the countries where it prevails. The epidemic is certainly the same affection which now exists at St. Petersburg, Berlin, Rome, and Madrid. It is remarkable for the short duration, as well as for the benignity of the symptoms attending it.

In discussing this question, which has been repeatedly raised regarding the present epidemic, LIMARKIS, who, living in Constantinople, has had ample opportunities to see both diseases, gives a series of differential symptoms in the *Revue Médico-pharmaceutique*. These arranged in tabular form are as follows:

	Dengue.	Influenza.
Localization:	Hot countries.	All climates.
Duration of an epidemic:	Three to five months.	About one and a half months.
Spread:	Slowly, from small foci.	Rapidly, attacking large districts simultaneously.
Commencement of the disease:	Always sudden.	Almost always sudden.
Fever:	Always very high.	Not always very high.
Nervous system:	Prostration, pain in the head and limbs.	The same.
Larynx and trachea:	Seldom attacked.	Always attacked.
Dyspnœa:	Never.	Common.
Gastric symptoms:	Always; violent, persistent.	May be absent.
Eruption:	Always; beginning in the face, descending, erythematous, ending in desquamation.	Rare, irregular.
Headache:	Sensation of external pressure; iron hoop.	Violent, internal, often neuralgic pain.
Complications:	Rare; of heart, liver, and kidneys.	Common; bronchioles and lungs.
Convalescence:	Very slow.	Usually rapid.
Prognosis:	Always favorable.	Often occurs in malignant forms.
Attacking animals:	Dogs, cats.	Horses.

Still further proof that influenza is not a form of dengue modified by climate is the fact that the former occurs in hot countries in exactly the same form as in northern Europe, and that the two diseases have just appeared in Constantinople, the one shortly after the other.—*Berliner klinische Wochenschrift*, No. 2, 1890.

ESTIMATION OF THE BLOOD-CORPUSCLES IN HEALTH.

REINECKE (*Fortschr. d. Med.*, June 1, 1889) made a long series of observations on his own blood in the effort to determine the relative proportion of the red and white corpuscles. The average derived from the total number of his counts showed a ratio of 1 white to 720 red blood-cells. He states, however, that this may vary from 1 in 100 on the one side, and to 1 in 500 on the other, without passing the limits of what must be called normal. This variation, too, may take place within a comparatively short time, and while the individual remains under conditions of life as unchanging as possible.

OBSERVATIONS ON THE URINE IN PERNICIOUS ANÆMIA.

MR. HUNTER (*Practitioner*, September, November, December, 1889) contributes another valuable addition to the studies which he has already made on this subject. He reports in brief a well-marked and fatal case of the disease. There were seen increasing weakness and anæmia without emaciation, diarrhœa without gastric symptoms, fever only rarely, epistaxis, a well-decided lemon color, and on one occasion a slightly icteric hue. The spleen was perceptibly enlarged during the last three months of life. The blood at one examination gave 64 per cent. of red blood-cells and 56 per cent. hæmoglobin; and at another time 19 per cent. of corpuscles, and 22 per cent. of hæmoglobin. The author regards this high percentage of hæmoglobin as the only characteristic presented by the blood in pernicious anæmia. A high degree of oligocythæmia and poikilocytosis is common also to traumatic anæmia of sufficient intensity.

The urine in this case was repeatedly and carefully examined; its color was that of extremely dark sherry with something of an olive tinge, this being most marked during the exacerbations of the disease. Bile pigment and hæmoglobin could at no time be found in it, but a very large amount of pathological urobilin was discovered. There is no doubt that pathological urobilin is, in all cases, derived from the disintegration of hæmoglobin; the author believes mainly through the medium of the bile-pigments, since he found an increased secretion of bile in this case, as shown by the color of the feces. Another probable source of the urobilin in pernicious anæmia is the pigment deposited in the liver. He thinks there can be no doubt that the excretion of such large amounts of pathological urobilin is evidence of the hæmolytic nature of pernicious anæmia, and is diagnostic of the disease. In traumatic anæmia the urine is invariably extremely pale.

The fact that the hæmolysis in pernicious anæmia takes place in the portal circulation explains why hæmoglobinuria does not occur in this disease. The hæmoglobin liberated is disposed of in the liver, being excreted as bile-pigment or stored up in the form of blood-pigments; when the blood destruction is very great, the liver is unable to dispose entirely of the hæmoglobin, and it passes into the general circulation. Evidence of this is seen in the deposition of a large quantity of pigment in the kidneys. It is remarkable that in no instance has hæmoglobin or any of its immediate derivatives been found in the urine, even when large amounts of pathological urobilin pointed to an extensive destruction of blood. This is probably to be explained on the ground that the hæmoglobin liberated from the corpuscles reaches the kidneys combined in some way with the albumin of the corpuscles or of the plasma, that it does not answer in the urine to any of the ordinary reactions; when it does appear in the urine it is in the form of yellow albuminous droplets, only recognizable on microscopic examination. A further difference between simple hæmoglobinuria and pernicious anæmia consists in the changes found in the kidneys. In the former there occur menisci of hæmoglobin in and around the glomeruli, since it is through them that the principal excretion takes place. In the latter affection there is a deposition of finely granular blood-pigment in the epithelial cells of the primary and secondary convoluted tubules, while the loops of Henle are comparatively free, and in the collecting tubes and the glomeruli there is not a trace of pigment of any kind. This leads to the conclusion that in pernicious anæmia the hæmoglobin is excreted by the epithelial cells of the convoluted tubules, and that within the cells it has undergone disintegration and been converted into blood-pigment.

An important fact in connection with the case reported was that with each exacerbation of the disease there was a reappearance in the urine of renal cells and coats containing granules of blood-pigment. The cells were such as had probably become detached from the convoluted tubules during the extra strain thrown upon them by the increase of pigment supplied them at these times. The author regards the appearance of pigment-cells in the urine as of great diagnostic value in doubtful cases.

Hunter finally takes up the consideration of the excretion of iron in the urine in health and in disease, and details the method to be employed in its estimation. The results of his investigations indicate that, in his case at least, there was an increase in the amount of iron excreted. This, too, points, he thinks, to an excessive destruction of blood as the basis of pernicious anæmia.

Summarizing his observations on the urine in pernicious anæmia, he states that: 1, the presence of pathological urobilin in great quantity; 2, the presence of blood-pigment; and 3, an increased excretion of iron, all point to an excessive destruction of the blood as the cause of the disease, and all agree in that they vary from time to time in proportion to the aggravation or amelioration of the other symptoms. They are, also, of great diagnostic value when present, though pernicious anæmia need not always show these changes.

ACTION OF THE DIGESTIVE SECRETIONS ON THE TETANUS BACILLUS.

SORMANI (*Riforma Medica*, 1889, No. 95) concludes as a result of his experimental studies on the influence of the digestive secretions upon the tetanus bacillus of Rosenbach:

1. The flesh of animals which have died of tetanus may be eaten without danger.

2. The producer of tetanus passes through the gastro-intestinal canal of the herbivora and carnivora without producing fatal results or any especial symptom of a diseased condition.

3. The digestive secretions of the herbivora and carnivora exert no destroying or weakening action upon the tetanus bacillus.

4. An animal can, without harm, take into the gastro-intestinal canal a quantity of the tetanus poison far greater than that which will invariably produce death if given hypodermatically.

5. These facts arouse some doubts regarding the theory which would connect the pathogenesis and symptomatology of tetanus with the absorption of metabolic alkaloidal products of the bacillus.

6. The feces of animals fed with material containing the tetanus bacillus can become the means of the diffusion of the virus.

DIABETIC COMA AND ITS TREATMENT.

STADELMANN (*Deutsch. med. Wochenschr.*, 1889, No. 46), as the results of clinical and experimental observation on this subject, comes to the following conclusions:

1. Diabetic coma—apart from accidental coma due to other causes—occurs only in the case of diabetic patients whose urine contains oxybutyric acid.

2. Almost equivalent in value with the recognition of oxybutyric acid is the determination of the amount of ammonia in the urine; while it is also far easier of performance.

3. Diabetic patients with an excretion of ammonia of more than 1.1 grammes per day are in danger of becoming severe cases of the disease.

4. Patients excreting 2, 4, 6, and more grammes of ammonia daily need constant watching by the physician, and are in constant danger of passing into diabetic coma.

5. If the determination of the presence of oxybutyric acid, or the estimation of the amount of ammonia cannot be carried out, at least the chloride of iron test should be made. If this gives a positive reaction, oxybutyric acid is present in the urine, and the cases answers to the statements made in the 3d and 4th conclusions. The converse of this is, however, not always true, for there are cases of diabetes with oxybutyric acid in the urine, and even suffering from diabetic coma, whose urine does not give the chloride of iron reaction.

6. These severe cases in which there is an increase of the secretion of ammonia, or the presence of oxybutyric acid with the chloride of iron reaction in the urine, are only with the greatest caution, and with the simultaneous exhibition of alkalies, to be put upon a strict meat diet.

7. If there is fear of the development of diabetic coma, the patients should be put upon full doses of the alkalies, though, of course, with strict oversight and with proper interruptions in the treatment.

8. If coma has already developed, large intra-venous injections of a solution of the carbonate of sodium and the chloride of sodium should be given as quickly as possible; the patient being carefully watched meanwhile. The injections should be stopped if threatening symptoms appear, such as irregularity or marked retardation of the pulse, convulsions, or temporary cessation

of respiration. After a time they should be recommenced, and the process continued until the urine becomes alkaline.

9. Subcutaneous injections of carbonate of sodium are not to be commended, on account of the pain and the deep-seated inflammation they produce.

THE NIGHT-SWEATS OF PHTHISIS TREATED WITH CAMPHORIC ACID.

LEU (*Charité Annalen*, 1889) has employed camphoric acid—produced by the oxidation of camphor with sulphuric acid—against the night-sweats of phthisis, in 13 patients; the drug being administered 155 times in all. In 60 per cent. complete success was obtained, this consisting in complete dryness of the skin. There were no good results obtained in 18 per cent., and partial success in 22 per cent. The dose employed varied from 30 grains given in the evening, to 75 grains administered in two doses. The good effects were often not observed until the second night after the drug was given; and the action of the medicine often then persisted during several nights.

The author found the value of camphoric acid greater than that of atropine, and the effects more lasting. The drug was also free from disagreeable secondary effects, except that in one case an attack of urticaria developed, which, however, had probably nothing to do with the medicament. He tried its alcoholic solution externally for bathing the body, and found it decidedly superior to vinegar in preventing local sweating.

SURGERY.

UNDER THE CHARGE OF

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THE TREATMENT OF CICATRICIAL AND CANCEROUS ŒSOPHAGEAL STRICTURES.

LE FORT (*Bulletin générale de Thérapeutique*, January 15, 1890) divides the contractions of the œsophagus which may require treatment into two great classes—the cicatricial and the carcinomatous—and arrives at the following conclusions:

1. As to the cicatricial strictures: He believes gastrostomy to be a dangerous remedy, which should only be employed in the last extremity, by which he does not mean that we should wait until the patient is dying from inanition, but that we should at first employ all other means, especially dilatation. It is necessary, in his opinion, to use sounds of a special form (which he figures), passing, in the first place, the very finest bougies, which enter